Klamath Network Featured Creature
June, 2008

Cicada (Family Cicadidae)

General Description

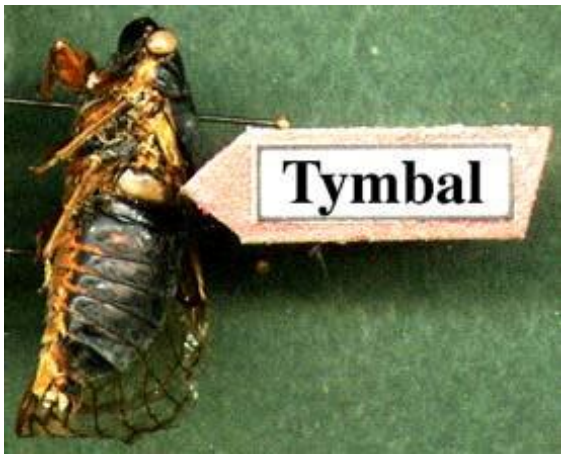
One of the most distinctive elements of summer is the percussionistic clicking, or sometimes din, of male cicadas. Cicadas produce some of the loudest insect-produced sounds, up to about 85 decibels, or the equivalent of a loud truck passing by. There are about 2,500 species of cicadas in the Cicadidae family of insects. This family resides in the order containing true bugs, Homoptera, characterized by the overlapping pattern in which their conspicuously-veined wings are folded across their backs. The adult cicada is generally 2-5 cm ($^4/_5$-2") long (15 cm [6"] in some tropical species). The eyes are prominent, lateral, and often red. The wings are large and transparent, with thick veins.

Song

Unlike crickets, whose chirping sounds are caused by rubbing their legs, cicadas make their sounds with special membranes called timbals (or tymbals). The timbals are regions of the outer skeleton that are modified to form thin, membranous portions and thickened "ribs." Muscle action causes these membranes to vibrate, and the cicada's body serves as a resonance chamber, greatly amplifying the sound.

Life History

Females lay eggs in slits cut into twigs of trees or other woody vegetation. After hatching, the ant-sized larval nymphs drop to the ground. They burrow in the soil and attach to plant roots to feed. In the final nymphal instar, the cicadas burrow to the surface and exit the soil. The final instar crawls to a nearby plant and molts into an adult. The shed exoskeleton remains clinging to the plant. The adult lives for 4-6 weeks and mates.



Cicada with wing removed to show location of the tymbal, which produces its sound.

The life cycle of most cicadas lasts from 2-5 years. However, there are some species of periodic cicadas (*Magicicada*) whose life cycles are 13 or 17 years. Cicadas are highly vulnerable to predation. Insect predators have shorter life cycles and cannot become synchronized to 13 or 17 year lifecycles, as these are prime numbers. Although the larvae of periodic cicadas mature at rates that vary, they all emerge together on schedule. The synchrony of emergence is therefore controlled by an internal biological clock, a mechanism that helps satiate predators, ensure reproductive success, and minimize interactions among cicada species on different schedules.

Did You Know

Cicadas have fascinated people for millennia. The genus *Magicicada* reflects their seemingly magical ability to appear in great numbers after a prolonged absence. Today, 13 and 17 year broods are numbered and tracked with great enthusiasm (see web site below).

Where to See in the Network

Cicadas are documented in Crater Lake, Lava Beds, and Redwood, but probably occur at all parks in the Network.

More Information

Visit a web site devoted to cicadas!
www.**cicada**mania.com/
www.**magicicada**.org/